



California Environmental Protection Agency

**AIR RESOURCES BOARD**

# Public Hearing To Consider Amendments to the Heavy-Duty Vehicle Smoke Inspection Program (Implementation of Assembly Bill 1009)



**January 26, 2006**  
**Sacramento, California**



## **Overview**

- Background
- Existing U.S. Standards for Heavy-Duty Engines
- AB 1009 Proposed Regulatory Amendments
- Summary and Recommendation



# Health Impacts of Diesel Exhaust

## Exhaust Constituent

Particulates

NO<sub>x</sub> & HC

(Ozone Precursors)

## Health Impact

Premature Deaths

Cancer

Respiratory Disease

Respiratory Disease





## **AB 1009 (Pavley)**

- Restricts heavy-duty vehicle emission in California to vehicles designed to meet U.S. standards
  - Engine must meet U.S. emission standards
  - Requires owners to carry proof of compliance
- Applies to Heavy-Duty Commercial Vehicles (HDCVs) >10,000 pounds used on California roads
- ARB/CHP required to develop inspection protocols to ensure compliance



## **Which Vehicles Meet AB1009 Requirements?**

- U.S. Standards in place since 1974
- Canadian vehicles
  - Canada has relied on U.S. standards since 1974
  - All Canadian vehicles meet U.S. standards
- Mexican vehicles
  - Mexican standards were aligned with U.S. for 1993-2003 model years
  - Prior to 1993 and after 2003 Mexican standards were less stringent



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# Summary of Engines Meeting U.S. Standards

<u>Country</u>	<u>Pre-1974</u>	<u>1974-1992</u>	<u>1993-2003</u>	<u>2004+</u>
Canada	Compliant	Compliant	Compliant	Compliant
Mexico	Compliant	Non-Compliant	Compliant	Non-Compliant



# **Heavy-Duty Commercial Vehicle Survey**

- Survey of 765 heavy-duty commercial vehicles (HDCVs) at locations in Southern California
- Approximately 1% of the HDCVs were equipped with non-U.S. certified engines
  - Percentage may increase with implementation of NAFTA
- About 30% of the HDCVs surveyed were missing the emission control label





## **Regulatory Proposal**

- Determine if the engine meets U.S. standards
  - Inspect label of 1974 and later vehicles
  - Included as part of existing smoke inspections
- Operation of engines that do not meet U.S. standards will be fined
- Missing engine labels must be replaced
  - Provides evidence of meeting U.S. standards
  - Allows efficient inspections





## Penalties

- Engines not meeting U.S. standards will be issued a \$500 civil penalty
- A \$300 civil penalty for missing engine labels
  - Penalty waived during the first year of implementation if label is replaced within 45 days





## **Cost of Compliance**

- Estimated replacement costs of non-U.S. EPA compliant trucks (1% of fleet)
  - \$1,500/vehicle for pre-1993 HDCVs
  - \$4,500/vehicle for 2004+ HDCVs
- Estimated replacement costs of missing labels at \$100/label (30% of fleet)
- Total estimated compliance cost \$20 million



## **Estimated Emissions Benefits**

<b>Location</b>	<b>NOx (tpd)</b>	<b>PM (tpd)</b>
<b>Statewide</b>	<b>2.9</b>	<b>0.12</b>
<b>South Coast Air Basin</b>	<b>1.1</b>	<b>0.04</b>

Estimated benefits for calendar year 2006 using California EMFAC2002 and U.S. EPA MOBILE5-MX emission model

tpd = tons per day





## **Cost Effectiveness**

- \$10.62/pound NOx and PM for pre-1993 HDCVs
- \$1.09/pound NOx and PM for 2004+ HDCVs



# Implementing the Pavley Requirements

- Add “label” inspection to existing smoke inspection program.
  - 11 inspection teams performing 17,000 inspections annually
  - Inspections performed at CHP inspection facilities, border crossings, random roadside locations, and fleet facilities
- Staff will continue outreach efforts to provide compliance assistance



## **Summary and Recommendation**

- Staff's proposal will establish a cost-effective inspection process in compliance with AB 1009
- Prevents excess emissions from engines not designed to meet U.S. standards
- Staff recommends Board adoption of the proposed amendments